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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,656	08/25/2003	Walter K. Lim	57239	3911
7590 09/22/2005 Dennis H. Lambert & Associates 7000 View Park Drive Burke, VA 22015			EXAMINER PRICE, CARL D	
			ART UNIT 3749	PAPER NUMBER

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/648,656	LIM ET AL.	
	Examiner	Art Unit	
	CARL D. PRICE	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/23/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims **1, 3-5, 7 and 18** have been considered but are moot in view of the new ground(s) of rejection.

Consistent with applicant's argument that the prior art relied on in the previous office action fail to show, disclose and/or teach certain aspects of applicant's invention now recited in the claims filed on **06/23/2005**, applicant has amended the claims to include the following:

"... and said pressure being in the range of from about 25 psi up to about 100 psi to avoid splattering of molten wax when the spray is directed against a candle flame."

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case both the field of endeavor of applicant's claimed invention and the field of endeavor of the prior art references relied on to reject the claims encompass the general area of a hand held finger and pump operated devices for producing an aerosol water mist or fog-like water spray. A person having ordinary skill in the art would therefore understand teachings found in these related prior art references to be applicable to related problems being solved within this field of

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endeavor (i.e.- where the spray is intended to be used for extinguishing a candle flame). In this regard, it must be noted that the use of a water to extinguish open flames is a notoriously well known principle. And, it is as well known that matters relating to the manner of distributing a flame extinguishing water spray are necessarily related to the character of a given opening flame being extinguished. For example, it is very well known that firefighting hose water spray nozzles are intentionally provided with means to readily regulate the water spray distribution pattern, spray characteristics (i.e. – fog, mist, narrow and broad streams) in a manner necessary and sufficient to optimize flame extinguishing. Albeit related to a relatively small candle flame, **Harrison (US006267581B1)** explicitly shows (Figure 2) and discloses (column 3, lines 6-19) a hand held finger and pump operated device for extinguishing a candle flame by dispensing, under pressure, a filled conical spray (B; see column 3, lines) of an aerosol water mist about the flame of a candle to be extinguished. **Harrison (US006267581B1)** also recognizes that “countless varieties of hand pumps are available for use in practice of the invention”. And, **Yen (US006510901B2)** further establishes a further represents the level of ordinary skill in art in the explicit recognition that “the optimum parameters of the extinguisher required of extinguishing various types of fires, including water mist characteristics (spray angle, water droplet sizes and flow rates), discharge pressures, nozzle discharge angles, and the type of nozzles, have been determined.” (see columns 5-8). A person having ordinary skill in the art of extinguishing open flames being aware of the necessity to regulate and otherwise control the characteristics of a fire extinguishing water spray, for extinguishing a flame of any size, would look to and draw teachings not only directly related to fire fighting, such as in **Harrison (US006267581B1)** and **Yen (US006510901B2)**, but would also make use of relevant prior art teachings, such as presented in **Goeren et al (US005829648A)**, dealing with means and techniques for shaping and forming water sprays.

Drawings

The drawings were received on 0/23/2005. These drawings are acceptable and have been approved by the examiner.

35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-5, 7, and 18: Rejected under 35 U.S.C./35 U.S.C. 103(a)

Claims 1, 3-5, 7 and 18 are rejected under 35 U.S.C. 103(a) as being obvious over **Harrison (US006267581B1)** in view of **Yen (US006510901B2)** and further in view of **Goeren et al (US005829648A)**.

Harrison (US006267581B1) shows (Figure 2) and discloses (column 3, lines 6-19) a hand held finger and pump operated device for extinguishing a candle flame by dispensing, under pressure, a filled conical spray (B; see column 3, lines) of an aerosol water mist about the flame of a candle to be extinguished. **Harrison (US006267581B1)** also recognizes that “countless varieties of hand pumps are available for use in practice of the invention”. **Harrison (US006267581B1)** discloses the invention substantially as set forth in applicants’ claims with possible exception to:

- 1) the size of water droplets and the spray distribution (i.e. - a steep bell curve and a filled conical spray),
- 2) the quantity of water discharged in each cycle (i.e. – 1.0 ml, 0.05 ml, 0.08 ml),

- 3) the pump being of the “finger pump” type (claim 7),
- 4) a 0.12 inch mechanical break up insert to form the desired droplets size (claim 18).

Yen (US006510901B2) teaches (see column 3, lines 48-60; column 4, lines 7-16 and 29-35) from the same open flame extinguishing field of endeavor as **Harrison (US006267581B1)**, water mist sprays having droplet with cross-sections between 400 and 1000 microns are known to produce “best flame suppression action and results”. **Yen (US006510901B2)** further acknowledges that these water mist droplets “have a very great total surface area, acting to rapidly lower temperature in the flame area and fat zone.” **Yen (US006510901B2)** also recognizes that “the optimum parameters of the extinguisher required of extinguishing various types of fires, including water mist characteristics (spray angle, water droplet sizes and flow rates), discharge pressures, nozzle discharge angles, and the type of nozzles, have been determined.” (see columns 5-8).

Goeren et al (US005829648A) teaches from the same open flame-extinguishing field of endeavor as **Harrison (US006267581B1)** forming a filled conical spray (i. e. – “a blossom of spray; see column 2, lines 10-24).

In regard to claims **1, 3-5, 7 and 18**, in view of the teaching of **Yen (US006510901B2)**, it would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the water mist to produce water droplets sized from about 1.0 to about 1000 microns. Additionally, in view the recognition in **Yen (US006510901B2)** that optimum parameters of the extinguisher required of extinguishing various types of fires can be determined by the person having ordinary skill in the art, to distribute the spray over a step bell curve, discharge water in each cycle in the amount of 1.0 ml, 0.05 ml or 0.08 ml; dimension and select nozzle elements (i.e.- properly sized mechanical breaks) and selecting the pressure in the range of from about 25 psi up to about 100 psi to avoid splattering of molten wax when the spray is directed against a candle flame each can be viewed as nothing more than mere matters of choice in design associated with a given use, or application, of a device such as that of **Harrison (US006267581B1)**. Also, in regard to claim **1, 3-5, 7 and 18** for the purpose of sufficiently

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dispersing the mist so as to not overly wet the surface being treated, it would have been obvious to a person having ordinary skill in the art, to modify the water misting device of **Harrison (US006267581B1)**, to produce a filled conical spray (i. e. – “a blossom of spray”), in view of the teaching of **Goeren et al (US005829648A)** (see column 2, lines 10-24).

Conclusion

See the attached PTO FORM 892 for prior art made of record and not relied upon and which are considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

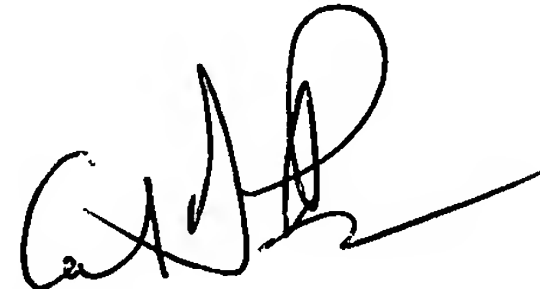
USPTO CUSTOMER CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **CARL D. PRICE** whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on (571) 272-4475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Carl D. Price', with a long horizontal stroke extending to the right.

CARL D. PRICE

Primary Examiner

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Cp